

AD-A100 257

NAVAL HEALTH RESEARCH CENTER SAN DIEGO CA
ENVIRONMENTAL AND ORGANIZATIONAL STRESSES AND HEALTH. (U)
JAN 76 E K GUNDERSON
NAVHLTHRSCHC-76-11

F/6 6/5

UNCLASSIFIED

NL

1 of 1
4010
100242

END
DATE
FILED
7-81
DTIC

LEVEL II

2

ENVIRONMENTAL AND ORGANIZATIONAL STRESSES AND HEALTH.

10

E. K. E. GUNDERSON

9 Final rept.

12 5

REPORT NO. 76-11

14 NAVHEALTHRSCHC -

11 Jan 76

DTIC ELECTED JUN 16 1981
S D

E

16 F51524

17 MF515344Q2



DMC FILE COPY

391642

NAVAL HEALTH RESEARCH CENTER

P. O. BOX 85122
SAN DIEGO, CALIFORNIA 92138

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

81615028 43

Abstract

Environmental and Organizational Stresses and Health

E. K. Eric Gunderson*

This report provides a review of research on environmental and organizational influences on health and describes a large-scale study in progress which involves questionnaires, interviews, on-site observations, medical data, and personnel and organizational records gathered in 23 naval organizations (20 combat ships and three shore stations) and three civilian organizations. Retest data were obtained for nine ships to provide evidence of stability or change in major dimensions studied. A general social systems model was developed for the study which encompasses a wide-range of environmental, organizational, and individual variables and provides a framework for analyzing relationships between the individual and his environment in an organizational context and also for evaluating the effectiveness of individuals, organizational units, and the organization as a whole in achieving organizational objectives.

The physical environment is viewed as an important component of the social system model. The environment has an impact at several levels of analysis and interacts with all other components to influence behavioral outcomes at individual and group levels. The environmental dimensions included in the current studies were: spatial size (crowding), temperature, ventilation, noise, illumination, color, cleanliness, odor, design of fixtures and furnishings, privacy, storage space, and safety factors. These dimensions can be used to characterize the organizational environment as a whole, or,

if significant variability is present, to differentiate among areas or spaces within the total organizational environment. Both the actual physical conditions and individual perceptions of those conditions are taken into account in assessing the effects of environment on illness. Sources of variance in environmental perceptions are separated into the following components: (a) physical aspects (objective physical conditions); (b) characteristics (perceived physical conditions on which individual raters show concensus), and (c) individual uniqueness (deviations of individual perceptions from the group mean). Finally, a difference effect can be computed (the difference between an objective measure and a characteristic or group mean). Using these separate components in predicting illness both increases prediction and helps explain why a relationship exists.

A large number of specific hypotheses pertaining to relationships between environmental and social stresses and health are tested. The results provide important new information concerning the determinants of health and effective work performance and, in addition, advances our theoretical understanding of the behavior of individuals in organizations in terms of explicating a broadly conceived social system model.

| | |
|---------------|-------|
| Accession For | |
| NTIS, GPO&I | |
| DTIC TAB | |
| Unpublished | |
| Justification | |
| Fy | |
| Distribution | |
| Acc | 5-695 |
| Dist | |
| A | |

*Head, Environmental and Social
Medicine Division
Naval Health Research Center
San Diego, California 92152

and

Clinical Professor
Department of Psychiatry
School of Medicine
University of California, San Diego

Bibliography

Gunderson, E. K. E. and Rahe, R. H. (Eds.), Life Stress and Illness.

Springfield, Ill.: C. C. Thomas Publishing Co., 1974.

Rahe, R. H., I. Fløistad, T. Bergen, R. Ringdahl, R. Gerhard, E. K. E.

Gunderson, and R. J. Arthur. A model for life changes and illness research. Cross-cultural data from the Norwegian Navy. Archives of General Psychiatry, 1974, 31, 172-177.

Gunderson, E. K. E. Utilization of human resources: Summary and comment.

In: Singleton, W. T. and Spurgeon, P. (Eds.), Measurement of Human Resources. London: Taylor and Francis, 1975, pp. 343-348.

Gunderson, E. K. E. and Sells, S. B. Organizational and environmental factors in health and personnel effectiveness: I. Introduction. Report No. 75-8, Naval Health Research Center, San Diego, California, 1975.

Gunderson, E. K. E. Health and adjustment of men at sea. In: Goldman, N. and Segal, D. R. (Eds.), Proceedings Research Conference on the Social Psychology of Military Service. Chicago: University of Chicago, April 1975, pp. 164-179.

Dean, L. M., Pugh, W. M., and Gunderson, E. K. E. The behavioral effect of crowding: Definitions and methods. Environment and Behavior, in press.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|--|--|
| 1. REPORT NUMBER 76-11 | 2. GQVT ACCESSION NO. AD-A100 257 | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle) Environmental and Organizational Stresses and Health | 5. TYPE OF REPORT & PERIOD COVERED Final | |
| 7. AUTHOR(s) E. K. Eric Gunderson | 6. PERFORMING ORG. REPORT NUMBER | |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Health Research Center P.O. Box 85122 San Diego, CA 92138 | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS MF51.524.002-5019 | |
| 11. CONTROLLING OFFICE NAME AND ADDRESS Naval Medical Research & Development Command National Naval Medical Center Bethesda, MD 20014 | 12. REPORT DATE January 1976 | |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Bureau of Medicine and Surgery Department of the Navy Washington, DC 20372 | 13. NUMBER OF PAGES 3 (Abstract) | |
| 15. SECURITY CLASS. (of this report) Unclassified | | |
| 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE | | |
| 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited. | | |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited. | | |
| 18. SUPPLEMENTARY NOTES Presented at the International Congress of Psychology, Paris, France, 18-25 July 1976. | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Organizational factors Social systems Crowding Morbidity Naval personnel | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The report provides a review of research on environmental and organizational influences on health and describes a large-scale study in progress which involves questionnaires, interviews, on-site observations, medical data, and personnel and organizational records gather in 23 naval organizations and three civilian organizations. | | |

